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Online adult learning

Rapid evidence assessment

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Research

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1. Executive Summary

Introduction

The Department for Education (DfE) commissioned CFE Research (CFE) to undertake an international review of existing online adult learning initiatives. The DfE wishes to identify and learn from international examples of online learning for adults, especially that which is led and/or funded by national or federal governments. It will use the findings of this review to build an evidence base to understand the best ways it can support people to reskill and upskill to meet future economic needs.

Method

This review adopted a rapid evidence assessment (REA) approach. This is a more focused approach than a systematic literature review, with tighter search parameters to deliver robust results within more limited time and resource constraints. An REA enables the consideration of a specified range of ideas, rather than gathering all available evidence. It was agreed at the outset that the international review would only include documents in English for any non-English countries included in the study.

This review initially sought to answer the following research questions (RQs).

- RQ1: What are the features of online learning initiatives in terms of their provision, policy design and funding models?
- RQ2: What are the characteristics and volumes of the target groups of these initiatives, and how closely do these match the volume and characteristics of the groups that take up the offer?
- RQ3: How successful have these initiatives been in achieving their aims, and what have the outcomes been for learners?
- RQ4: How has innovative technology such as artificial intelligence (AI) been incorporated in these initiatives if at all? How successful has this been?
- RQ5: What best practices and lessons learnt can be drawn from these different initiatives in terms of upskilling and reskilling adults (who require intermediate skills)?

However the initial search results were limited and for this reason the scope of the study was broadened to include examples of international non-government-led online adult learning initiatives.

It was anticipated from the outset that the amount of literature available in the public domain would be limited. Therefore telephone interviews were to be conducted with

relevant people identified through the REA to seek further information and documentation on any online adult learning initiatives identified. The Foreign and Commonwealth Office also played a key role in identifying potential initiatives and contacts to interview.

Limitations of the review

Despite the broadening of the scope of the review and the assistance received from the government departments involved in identifying potential leads, it is important to note that the search results found very little detailed literature to answer the research questions.

Findings

Examples of existing government led online adult learning initiatives were identified in France (France Université Numérique and OpenClassrooms), Singapore (SkillsFuture) and Ireland (eCollege). In addition a detailed example (Future Ready) run by AT&T, a multinational telecommunications company based in the USA, was also found. The key features of each initiative are provided below followed by a summary of the lessons drawn from across them in order to inform the government's development of policy in this area. The study was not able to find any robust impact assessments of adult online learning initiatives, therefore any assessments of what works must be treated with caution.

Government led initiatives

France Université Numérique (FUN)

- FUN was set up in 2013 by the French government to create a massive open online course (MOOC) platform to increase free access for Francophones to online learning.
- Since then a number of subsidiary organisations have been established by FUN to provide the MOOCs' content but for a fee to meet alternative needs including one for universities seeking to provide the courses for their students and one for companies to access training for their workforce.
- There are now over 350 MOOCs covering more than 40 different subject areas, including business studies, digital technology and science, which have been developed in partnership with French universities.
- Members of the public can access the MOOCs for free although they are charged for their certificates, and additional funds are raised via subscription fees for partnering universities and businesses who subscribe to access the online courses for their students and employees respectively.

OpenClassrooms

- OpenClassrooms is a private distance learning business which provides an online education platform and grants its own qualifications as well as those on behalf of its partners.
- Since 2015 the company has also worked with the French government to provide jobseekers in France with free access to its short online courses to help them develop the skills required in the workforce.
- Over 1,000 online courses are available and they focus on digital skills to meet the needs of job roles perceived to be in high demand in the economy. These include IT, digital, project management and software development.
- The level of courses range from short courses of 5-15 hours of learning to Master and Bachelor level qualifications requiring around 12 months to complete.
- The courses are available online in the form of text, images or videos for learners to follow independently at their own pace but mentors are also available to provide support via videoconferencing and learners can post and answer questions on discussion forums with virtual classmates. The Bachelor and Masters level programmes also require the completion of numerous projects which enable the learner to demonstrate they have the requisite skills for a particular job.
- The courses are assessed by quizzes and peer-reviewed assignments, with a score of 70% required on completion of the course to be eligible for a certificate.
- The short courses are free of charge for jobseekers and £20 per month for other learners to access certificates. The Bachelor and Masters level programmes are charged at £300 to £500 per month. These also include the financial incentive of a job guarantee by which graduates who do not secure employment within six months of completing the course will receive their money back.

SkillsFuture Singapore (SSG)

- SSG is a programme introduced in 2014 by the Singaporean government to promote the value of lifelong learning and encourage Singaporeans to take responsibility for ensuring they have the skills to contribute to the economic prosperity of their country.
- The programme is supported by an infrastructure which includes: a council of key stakeholders from government, unions and industry to design and deliver training programmes to provide the skills to meet the needs of the economy; financial subsidies to incentivise Singaporeans to invest in their lifelong learning; and, an online portal called MySkillsFuture for citizens to access in one place employment opportunities, careers advice, training and the funding to subsidise the latter.

- The courses available on MySkillsFuture include online learning but also classroom and workplace training, and cover a wide range of subjects, levels, and length, with most taking six to 12 months to complete.
- SSG has a number of ways in which it promotes its activities. These include a month long festival of roadshow events held throughout Singapore to communicate its vision and services which is also supported by a concurrent online festival which promotes links to online learning content at a reduced cost. In addition, SkillsFuture Advice is a scheme providing free to access workshops to help Singaporeans in person who require additional support to access the learning opportunities available online.
- It is funded through the government including via the Skills Development Levy which requires employers to provide a monthly payment for all employees based in Singapore.
- Singaporeans receive a contribution of S\$500 from the government which they can access via the MySkillsFuture portal to put towards any training and many of the courses are further subsidised through the government's co-payment model.

eCollege

- eCollege is an online learning programme led by SOLAS which is an agency established by the Irish government in 2013.
- It provides online courses in business, project management, digital and IT skills through e-learning content such as online tutorials, videos, and eBooks.
- The courses last between 16 and 24 weeks and learners are able to progress at their own pace. Learners can raise any queries about their course via a messaging service with eTutors who are available Monday to Friday.
- Assessments for the courses are carried out at approved test centres rather than online and require an administration fee of €32.
- The courses are accessible to jobseekers for free following verification from their local employment office and they are also available for a fee to employed members of the public seeking to update their skills and employers wishing to improve the skills of their workforce.

Non-government led initiative

Future Ready

- Future Ready is a reskilling programme originally devised by AT&T over six years ago in response to: firstly, a realisation that many of the company's employees did not have the necessary skills for it to prosper in a technologically evolving market

place; and secondly, a recognition that it was more financially viable to reskill existing employees than recruit new ones.

- The programme includes: online courses designed in partnership with universities to provide Masters level degrees in computing and data science; and, an online interface which employees can use to see which internal jobs are available, the skills required for them, the likely salary to be achieved, and the future prospects for the role in order to understand its likely demand.
- The company has also recently moved from providing training in person to delivering it online using interactive virtual learning systems. The system also includes two-way communication so learners can ask instructors who are located in a virtual learning studio questions at any point in the delivery of the training. In this way the system enables learners to experience the training as if in a classroom environment but to be able to access it from any location.

Lessons from the initiatives

The following lessons have been identified from the online adult learning provision reviewed in this study to inform government policy in this area.

- **Promote the value and benefits of online learning as it is less well known to the general public** than other traditional methods of training e.g. face-to-face teaching in a classroom. The OpenClassrooms' interviewee highlighted the challenge of engaging the public in this newer concept of training method while SSG has run a month-long programme of roadshow events throughout Singapore to increase awareness of the types of training available online.
- **Make sure human interaction in some form is designed into the online training developed as it appears to be a critical element of effective online learning provision.** The examples identified in this study include: AT&T's interactive virtual reality system where instructors are filmed in a studio and broadcast live online to learners who, due to a two-way communication system also in place, can ask questions and get responses in real time; the use of mentors for learners, ranging from eCollege's electronic messaging service with tutors to OpenClassrooms' personal mentors with subject expertise providing weekly support via video conference for learning pathway students; and, OpenClassrooms' online forums where learners can access support and share advice with peers undertaking the same courses.
- **Ensure that the online learning opportunities provide the skills which are required to meet the needs of the future economy.** OpenClassrooms has grown by designing courses to meet employer demand and AT&T has created training programmes to foster in its workforce the skills the company will need in

future. FUN provides an additional example of this whereby it has raised employers' awareness about the online training universities provide and employers now work with these institutions to develop bespoke training for their workforce. It is also beginning to work with universities and sectors facing recruitment challenges to develop online courses to raise awareness of the opportunities in these sectors with potential employees.

- **Enable learners to make informed choices to identify the online courses which will help them to develop skills which are in demand.** The provision of career coaching or guidance, such as the roadmaps used by AT&T and eCollege or SSG's learner feedback ratings on course quality and outcomes, are ways in which potential learners could be supported to identify the right courses to develop the necessary skills to find employment.
- **Incorporate practical learning experiences into online courses so learners have the opportunity to apply the skills they are developing.** OpenClassrooms' learning pathways for example integrate project-based activities into their courses so learners can demonstrate they can put into practice the competencies they are learning.
- **Provide an online portal so learners take personal responsibility for developing their skills. Such portals can enable learners to access in one place advice on careers and employment opportunities, identify the necessary skills required to undertake these roles, and find the courses to attain these skills.** Evidence from SSG and AT&T's Future Ready initiative indicates that such a tool can help empower learners to take responsibility for their lifelong learning and retraining so they have the relevant skills to meet the needs of the economy.

Recommendations for future research

The parameters of this review focused on the identification of literature which was publically available and in English. This means there is scope for the research questions in this study to be explored further with different criteria. We recommend that DfE consider the following in their search for evidence to inform their policy development on online adult learning.

- Identify and analyse foreign language documents which might address some of the research questions. The annotated bibliographies¹ developed for this study

¹ Available on request.

include a number of links and references to non-English documents which could prove useful to follow up on.

- Engage the representatives of the online adult learning programmes interviewed for this study to access any additional evidence or perceptions on the outcomes of their initiatives which were not yet available, for example the perceived value of their courses for learners and employers and any impacts achieved.
- Refresh the review of publicly available literature at six month intervals using the existing search terms. This will identify any new documents as they are published. An alternative is agree a few more specific search terms (e.g. “state funded online learning” adult; “government funded e-learning” adult; etc.) and initiate a Google Alert to monitor online publications and articles using these terms. Specific search terms are necessary to make searches manageable.
- Further target the parameters of the search to explore more specific programmes, activities or projects rather than trying to identify whole government-led solutions. Targeting could be informed by either the existing literature, or interviews with key employers and/or sector representatives. These interviews should identify current and future skills gaps and any reportedly effective government-funded online learning initiatives, projects or techniques addressing skills deficits.

2. Introduction

Background to the study

The government set out its commitment to support adult retraining with the announcement of the National Retraining Scheme in the Autumn Budget 2017 (HM Treasury, 2017²). This was followed by an announcement at Budget 2018 of £100 million of new funding for the continued testing and development of the Scheme, with the initial roll out of the Scheme planned for late 2019. The National Retraining Scheme will focus on employed adults that are aged 24 and over, educated to below degree level and whose occupation is at risk from technological change. In preparation for the Scheme, the government is testing innovative approaches to learning and developing its evidence base to provide insight on the most effective ways in which it can support adults to reskill and upskill as the economy changes.

It is within this context that the DfE commissioned CFE Research (CFE) to undertake this international review of existing online adult learning initiatives. The DfE is interested in the potential role of online learning in upskilling and retraining large numbers of adults, particularly in intermediate skills. The DfE wishes to identify and learn from international examples of online learning for adults, especially that which is led and/or funded by national or federal governments.

Aims and objectives

This review initially sought to answer the following research questions (RQs).

- RQ1: What are the features of selected large-scale state-led online learning initiatives in terms of their provision, policy design and funding models?
- RQ2: What are the characteristics and volumes of the target groups of these initiatives, and how closely do these match the volume and characteristics of the groups that take up the offer?
- RQ3: How successful have these initiatives been in achieving their aims, and what have the outcomes been for learners?
- RQ4: How has innovative technology such as artificial intelligence (AI) been incorporated in these initiatives if at all? How successful has this been?

² HM Treasury (2017) *Policy Paper – Autumn Budget 2017* London: HM Treasury
(<https://www.gov.uk/government/publications/autumn-budget-2017-documents/autumn-budget-2017>)
[Accessed 13th September 2018]

- RQ5: What best practices and lessons learnt can be drawn from these different initiatives in terms of upskilling and reskilling adults (who require intermediate skills)?

Our initial literature searches addressing these questions resulted in a limited number of results. For this reason the scope of the searches was widened to pursue similar questions but for international non-government led online adult learning initiatives.

In addition to these searches, CFE also explored the application and value of “badging” in the context of online adult training accessible to the public.³ The findings of this can be found in *Annex: Badging*.

Outline of the method

Rapid evidence assessment

This review adopted a rapid evidence assessment (REA) approach. Compared with a systematic literature review, an REA follows a more focused approach in the search and review stages. By using tighter search parameters and limiting the searches and databases used, the process can be accelerated to deliver robust results within more limited time and resource constraints. The purpose of such a review is to consider a specified range of ideas, rather than gathering all available evidence or mapping the field. The review comprised the following stages:

- Search of academic and ‘grey’⁴ literature to build a database of potentially useful sources. Search terms and parameters are listed in *Appendix 1*;
- Selection of material based on quick evaluation of relevance from titles and abstracts;
- Review using the annotated bibliography method. The approach and key findings were noted for each source;
- Analysis of the material identified to understand the findings and clarify implications; and

³ A “badge” is a digital image file which represents a learning outcome for an individual, from professional credentials, academic certification, and technical competencies to soft skills. A learner can attach this file to their online profile and by clicking on the badge someone can view the relevant information about a learner’s skills and knowledge.

⁴ Typically a grey literature search is focused on identifying articles and reports available on the internet which are not confined to academic journals. For the purposes of this study where the availability of academic and ‘grey’ literature was significantly limited, the REA methodology was relaxed to include a focus on government related websites and media articles related to adult online learning initiatives in each of the countries of focus.

- Synthesis of findings and write up.

It was initially anticipated that this review would focus on between five and ten countries. The DfE originally proposed the following countries for potential inclusion in the analysis based on an awareness of potentially relevant online initiatives: Ireland, Singapore, USA, Germany, France, Canada and Brazil. To this list of countries, CFE added Australia and New Zealand based on its initial review of international online adult learning schemes. Later in the review's lifetime, following suggestions made by DfE's contacts in the Foreign and Commonwealth Office (FCO), CFE added the Netherlands and Sweden to the scope of the study. For non-English speaking countries it was agreed at the outset of the study that CFE would only review documents in English and interview English speakers.

Rapid evidence assessment results

Table 1 summarises the extent to which the evidence identified in this review is able to answer the research questions. Using a simple 'traffic light' system, the table indicates the coverage of evidence for each RQ. There is a lack of literature in general on the principal topic of this study and clear gaps in the literature and information available to specifically address certain research questions, particularly relating to the impact of and learning from online adult learning initiatives. As the study was not able to find any robust impact assessments of adult online learning initiatives, any assessments of what works must be treated with caution.

Table 1: Summary of coverage – extent each research question is covered by available evidence

Research question	Coverage	
	Government led	Non-government led
RQ1: What are the features of the online learning initiatives?	Low	Medium
RQ2: What are the characteristics and volumes of the target groups of these initiatives?	Low	Low
RQ3: How successful have these initiatives been in achieving their aims, and what have the outcomes been for learners?	Very low	Very low
RQ4: How has innovative technology such as artificial intelligence (AI) been incorporated in these initiatives if at all?	Very low	Very low
RQ5: What best practices and lessons learnt can be drawn?	Very low	Very low

Email contact and depth telephone interviews with key leads

From the outset it was expected that some of the evidence would not be available in the public domain. CFE therefore planned to follow up contacts identified in the initial search via email to gain more detail on initiatives and conduct telephone interviews where useful. In addition, the DfE approached their FCO contacts in each of the countries of interest to seek further relevant information and leads for the study.

Limitations of the review

Given the limited range of literature identified in the REA the pool of relevant people to follow up by email and telephone was small and often based on indirect contact details, for example, 'info@' email prefixes. CFE's attempts to identify further information to support the review using this approach were unsuccessful.

The approaches made by CFE to relevant contacts following introductions made by the FCO were more fruitful and depth interviews were conducted with contacts from Singapore, France and Brazil. The usefulness of these interviews in answering the research questions varied. For example, the Brazilian interview confirmed that the examples of online learning initiatives pursued in this country related more to secondary education and universities rather than tertiary adult learning. The interviews with contacts in Singapore and France, whilst providing more context to improve CFE's understanding of the government supported online adult learning initiatives in these countries, included little factual evidence on the outputs and outcomes of these schemes.

The review has been a collaborative and iterative process. CFE has worked with the DfE to refine search procedures, share evidence, and discuss the emerging findings. For example, in response to the challenges experienced in finding relevant literature or contacts to help answer the first set of research questions that CFE and DfE agreed to make the changes to the scope of the review. Firstly, it was broadened to include non-government led/funded initiatives and when this was deemed similarly challenging a final REA was undertaken in relation to badging to maximise the use of the study's resources.

Report structure

The findings of this study consider international examples of online adult learning initiatives from which the DfE can draw lessons and good practice to inform its policy development and potential design of a future online learning offer. We have ordered our findings into two chapters, as follows:

- First, we consider the policy context, features and lessons learnt from a number of international examples of government led online adult learning initiatives; and
- After this, we summarise the details of an online adult learning initiative led by a corporation which was identified during the initial searches for literature on government led programmes.

The report concludes by summarising the key lessons from the international examples of online learning for adults identified in the review in order to help inform the DfE's own policy development in this area. The report also includes an annex of the findings on the application and value of badging to online adult learning accessible to the public (see *Annex: Badging*).

3. Government led online adult learning initiatives

The REA sought to identify international examples of government led online adult learning initiatives. As outlined under the *Limitations of the review*, the search results for these examples were limited. From follow-up internet searches of government websites and telephone interviews with contacts identified by the FCO, we have been able to draw together examples of government led online adult learning initiatives in France, Singapore and Ireland. The findings for these three countries are ordered in terms of the amount of information available, with more detail found for France than Ireland.

For each of the three countries the findings are ordered as follows:

- Firstly, a consideration of the policy context of the initiative;
- Secondly, an understanding of the online learning provision including its design, content and funding model;
- Thirdly, an examination of the initiative's outputs and outcomes, where available; and
- Finally, a summary of the lessons learnt during the implementation of these initiatives, again where available.

France – France Université Numérique and OpenClassrooms

Two examples of online adult learning initiatives were identified in France. The evidence is mostly based on web articles, interviews with representatives from the two initiatives examined, and a few internal documents provided by these interviewees. The first initiative, France Université Numérique (FUN), was adapted from within the French government in line with its development of a digital strategy and the second, OpenClassrooms, is a private company which has partnered with the French government to deliver learning opportunities to adults.

Initiative 1: France Université Numérique (FUN)

Policy context

In 2013 the Ministry of Higher Education created a digital strategy for French education institutions. The aim of the strategy was to transform learning and teaching using digital technology. One of the actions within this strategy was to establish a Massive Open Online Course (MOOC) platform for French speakers.

“...in 2013, the Ministry of Higher Education decided to define a digital strategy for our Education Institutions in France...this strategy covers twenty actions [for] the

transformation of learning and teaching using digital technology...there was one action that was focussing on creating a MOOC platform...”

France – FUN interviewee

FUN was set up in 2013 within the Ministry of Education to create the MOOC platform. It initially had 25 MOOCs developed in partnership with ten French universities and within six months had 60 MOOCs with 25 higher education institutions. In 2015 FUN was re-established as a public organisation but with greater independence from central government given its role working closely with universities.

“.....the Ministry of Education realised that the project...was a success, of course the Ministry is not really the right place to carry on a project on behalf of a set of institutions...So, we worked with the universities...to create an independent organisation which is a public organisation called FUN, and that was created in August 2015.”

France – FUN interviewee

The FUN website indicates that there are currently 41 different subject areas for its MOOCs (FUN, undated⁵). The five subject areas comprising the largest number of MOOCs are: Business studies (118); digital technology (81); science (76); education and training (72); and, engineering (61).

Features of FUN

The aim of FUN initially was to provide French citizens and French speakers with free online courses and free online certificates on completion of these courses. According to an interview by Class Central⁶ with the communications manager of FUN, one of the initial aims was to increase the access of Francophones to lifelong learning and the variety of courses on offer to them (Class Central, 2017⁷). Since then a couple of subsidiary organisations have been set up to meet alternative needs. The first is FUN Campus which enables access to small private online courses (SPOCs) for professors who have designed MOOCs to use with their students. The second is FUN Corporate which enables companies to access the same courses as those available on FUN in order to train their workforce but for a fee.

“...when a professor has created a very good MOOC, which basically corresponds to a course that he gives on campus [they say] ‘We want to use those courses for the training

⁵ France Université Numérique (undated) *Courses*, <https://www.fun-mooc.fr/cours/#filter?page=1&rpp=50> [Accessed 3rd October 2018]

⁶ an online MOOC search engine and review site

⁷ Class Central (2017), *France Université Numérique: Meet the MOOC Platform Funded by the French Government*, <https://www.class-central.com/report/france-universite-numerique/> [Accessed 3rd October 2018]

of our students,'...we were asked by HR people, companies, to reuse courses to train their employees. So, we developed another platform which is called FUN Corporate ...We replicate the courses of our members for a company who is going to use it for the training of their employees or for an industrial sector who want to use this course to train the employees of the companies of the sector."

France – FUN interviewee

The French government is therefore providing upskilling opportunities to its citizens either directly through their access to FUN's MOOCs or via FUN Corporate if their employers are members.

Funding

The MOOCs available on FUN are free to learners to access. FUN receives funding through a number of channels to manage and provide its online learning content. These include:

- The Ministry of Education provides public funds;
- Universities as 'members' pay an annual fee to access services;
- Private education institutions and businesses as partners pay for the service which FUN provides for them, such as hosting a MOOC on the platform and their learners being able to access a hotline regarding any queries; and
- Learners pay for the paper versions of certificates they gain on the completion of a MOOC.⁸

Outputs and outcomes

FUN has produced a summary of its key outputs (FUN, 2018⁹). By 2018 FUN had 363 MOOCs, 1.2 million learners, and 3.9 million registrations to its courses produced by more than 106 universities. The vast majority of these are based in France (67%) and three quarters (75%) are aged 25 to 64. The age profile of the learners indicates that the service is being used by adults seeking to upskill or retrain in addition to university students. For example, one in five are aged 18-24 (20%) compared to approximately a quarter who are aged either 25-34 (28%) or 35-44 (24%).

"The audience is mainly...workers everywhere, who come on the platform to seek new competencies..."

⁸ Please note that the interviewee did not discuss any of the funding amounts in detail.

⁹ France Université Numérique (2018) *Les statistiques de la plate-forme FUN* France: FUN

There is limited information available on the learning outcomes FUN has achieved or measures of its success against its objectives. According to the organisation representative interviewed, this situation is a result of resource constraints as the team running the organisation is small and they have little time to analyse the data they record (of which there is a fairly large amount).

“...We regularly send surveys [to beneficiaries] and we have people who have testified. We have videos of people that we have recorded, people saying, ‘I took this MOOC, I change[d] job [or] I got a promotion in that company,’ so we know this happens. Unfortunately, we have all of this data but we haven’t got the time [to analyse it].”

France – FUN interviewee

Lessons

Customer-facing services

FUN has created different online learning access points to meet the needs of a variety of audiences seeking to upskill or retrain. For example, one structure is available directly to members of the public seeking to improve their skills; another is designed for employers to access to train their staff. This means that a single service can be used and adapted to multiple needs.

In a similar vein, FUN has created a non-FUN branded (“White Label”) version of its online provision. This is for scenarios where learning is better received and likely take up higher if it is not associated with academia. It has been used for its courses related to sustainable development for the construction industry. The national agency representing this sector hosts its own online training courses on a White Label platform and retains editorial control of its design. In this way the platform can be designed and marketed in alignment with the needs and expectations of its audience in order to achieve higher levels of participation than if the standard academic platform was employed.

“We also have a very strong partnership with the construction field...The project was supervised by the National Agency for Sustainable Development, and they decided to create a set of courses to train people who work in this field, but also to train [lay people] interested in the topic...[However] if you have a plumber who is going to take a course on the renovation of a house he is not going to feel very secure to come onto FUN which is more [of] an academic platform. So, we created a white-label platform for this field, and they are responsible for their own editorial strategy. They create the course at the pace they want, and they create the community around this topic of construction the way they want.”

France – FUN interviewee

Bringing employers and universities together

An unexpected impact of FUN was raising awareness of training available from universities with employers and in so doing, create relationships whereby universities develop training bespoke to the needs of employers. FUN provided a showcase of university-created online training to these employers, generating a market for the training.

“[FUN provided] this visible place where universities were showing what they’ve been doing, these [industry] sectors came to us and said, ‘Could we use those courses for the training of our service?...So, over the last two and a half years [we have become] some sort of a go-between, between companies or [industry representatives] who had needs, and universities who had proven on the platform that they were able to create good courses. We helped those two worlds to meet and to create content that was fitting those specific sectors’ needs. So, this is something that was very interesting to see, because I didn’t really expect that three years ago.”

France – FUN interviewee

Content to attract new entrants to less popular industries

FUN is trialling brokerage services between universities and sectors facing recruitment challenges to design online awareness-raising courses detailing the work opportunities in these sectors. The first example under development covers the social care sector tackling recruitment issues for residential care homes. The free to access and publicly available course will be hosted on FUN’s platform. It is anticipated that the course will assess the skills and interest from those with no previous experience in social residential care and those who perform well will be matched to a job opportunity in a care home. Learners willing to take up this employment opportunity would then receive further on-the-job training.

“[The] sector decided to create a MOOC with a university where the objective was not to train people working in nursing homes, but to propose a freely open course to people who would like to see what it is. To understand better what is to work in a nursing home, and at the end of the course, those who [performed well] were offered a job and further training in a nursing home if they wished.”

France – FUN interviewee

This example currently in development illustrates how an online learning initiative could enable adults to retrain and address a skills shortage in the economy.

Initiative 2: OpenClassrooms

OpenClassrooms is the second online adult learning initiative included in this review in which the French government is involved. The following description of OpenClassrooms

is based on web searches, including OpenClassrooms own website (OpenClassrooms, undated¹⁰), an interview with a representative of the organisation, and internal documents shared by this interviewee for the purpose of this study. There is therefore some level of bias as data is primarily drawn from sales documents rather than any independent evaluation.

OpenClassrooms is a private distance learning establishment registered with the Board of Education in France. It provides an online education platform and grants its own qualifications as well as those on behalf of its partners. It is working with the French government to provide training opportunities for jobseekers and whilst this is outside the REA's scope of its target audience we believe it still provides some useful lessons for the DfE. In addition the wider range of courses provided by OpenClassrooms, not only to jobseekers in partnership with the French government, are also a possible source of course design examples from which the DfE may wish to learn.

Policy context

The interview findings and a blog post on OpenClassrooms' website (OpenClassrooms, 2015¹¹) provide contextual background to the organisation's work with the French government. The collaboration commenced in 2015 when it was agreed that jobseekers in France would have free access to OpenClassrooms' short courses. It was intended that unemployed people would develop the skills to meet skills shortages in sectors such as digital media.

“Not only did the solution reduce employment, but it's also something that can move the economy by filling the gap.”

France – OpenClassrooms interviewee

According to an article on the website of the European Centre for the Development of Vocational Training the French government has continued its commitment to re-skilling jobseekers. It has launched a five year skills investment plan (*Plan d'investissement 2018-22*) to offer training to 1 million jobseekers and 1 million young people furthest from the labour market (CEDEF, 2018¹²).

¹⁰ OpenClassrooms (undated a) *Who We Are*, <https://openclassrooms.com/en/about-us> [Accessed 13th September 2018]

¹¹ OpenClassrooms (2015) *French President F. Hollande announces unlimited access to Open Classrooms for all job seekers*, <http://blog.openclassrooms.com/blog/2015/04/17/french-president-hollande-announces-unlimited-access-to-openclassrooms-for-all-jobseekers/> [Accessed 13th September 2018]

¹² European Centre for the Development of Vocational Training (CEDEF) (2018) *France: Series of reforms to transform vocational learning*, <http://www.cedefop.europa.eu/en/news-and-press/news/france-series-reforms-transform-vocational-training> [Accessed 13th September 2018]

Features of OpenClassrooms

Course design

The OpenClassrooms website outlines the design of its courses (OpenClassrooms, undated a¹³). It has over 1,000 courses available. The organisation offers short courses as well as Masters and Bachelors-level qualifications. It provides online courses in digital skills linked to the job roles it perceives will be in high demand in the economy. The focus of its courses are IT, digital, marketing, project management, and software development. The short course modules provided to jobseekers in partnership with the French government are the same ones as those offered as part of the Masters and Bachelors level programmes in order to ensure their high academic standard and alignment with employers' needs.

According to the OpenClassrooms' website (OpenClassrooms, undated b¹⁴), the principal features of the online learning offer are:

- Courses are available online 24/7 and accessible from all types of devices without teacher support. However, mentoring can be accessed via videoconferencing and students can access discussion spaces to post questions and receive support from their virtual classmates;
- Courses are created by a specialist in the field;
- Course content comprises one or multiple sections including educational text, images and videos;
- Course videos can be up to a maximum of ten minutes long, with the average being three to four minutes in length; and
- The length of courses depends on the pace of the learner but is typically 5-15 hours of learning, and the average length is indicated in the description information regarding the course.

For one-off short courses, learners can sign up at any time of the year and are assigned to virtual classes with other learners who enrolled at a similar time but they can still study and undertake assessments at their own pace. After enrolment, learners can access learning support from other learners via online forums. These elements of the OpenClassrooms model are similar to that of many MOOCs.

¹³ OpenClassrooms (undated a) *Who We Are*, <https://openclassrooms.com/en/about-us> [Accessed 13th September 2018]

¹⁴ OpenClassrooms (undated b) *How does it work – find out all about our training resources*, <https://openclassrooms.com/en/how-does-it-work> [Accessed 13th September 2018]

The assessments for completing the short course include two components. Firstly, quizzes which are automatically marked and assignments which are peer-evaluated. The peer review process involves multiple students grading an assignment based on set criteria, and the final grade is based on an average of these scores. This is a different model to many other MOOCs. According to OpenClassrooms' website this approach to assessment is as accurate as that achieved by teacher marking.

Learners achieving scores of at least 70% on completion of the short courses are eligible for a certificate of achievement. OpenClassrooms produces these certificates in partnership with universities, schools and companies providing expertise in the field of the course. For some courses academic credits (ECTS) are provided by OpenClassrooms' partners.

The cost of these individual short courses are charged at £20 per month for certificates but according to the interviewee these charges are waived when working with the French government to provide training for jobseekers.

In addition to one-off courses, OpenClassrooms also offers 'Learning paths' which are designed for learners to follow numerous courses in order to train for a specific job by developing the specific range of skills and know-how. These are online Bachelors and Masters level programmes which are available to learners for £300-£500 per month and include mentoring by professional staff. The OpenClassrooms' website indicates that the learning paths are categorised into three areas of subjects: design, development and product (OpenClassrooms, undated c¹⁵).

Once a learner completes all of the courses comprising a particular path they achieve a certificate for the learning path. The certificates for some of these pathways are professional titles recognised by the French government, for example diplomas. For instance, the description on the OpenClassrooms' website suggests that the user experience (UX) design online learning path is available for £500 per month has the following features (OpenClassrooms, undated d¹⁶):

- Lasts 12 months;
- Has ten projects to complete;
- Includes support from a personal mentor; and
- Provides a Masters'-level diploma.

¹⁵ OpenClassrooms (undated c) *Job Guarantee*, <https://openclassrooms.com/en/job-guarantee> [Accessed 13th September 2018]

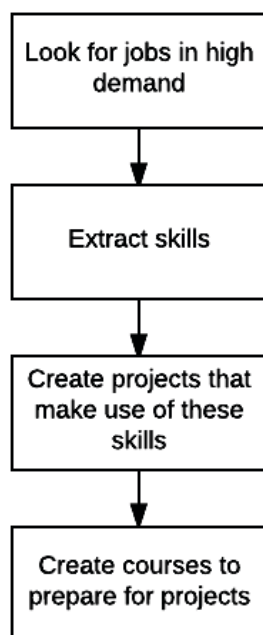
¹⁶ OpenClassrooms (undated d) *UX Designer*, <https://openclassrooms.com/en/paths/76-ux-designer> [Accessed 13th September 2018]

According to the details received by email from the OpenClassrooms' interviewee, mentors are either industry practitioners or academics ideally with professional experience. In agreement with its academic partners OpenClassrooms is responsible for vetting, recruiting and remunerating the mentors. Mentors provide support to learners via videoconference. This assistance includes setting the objectives and progress schedules for the course and answering questions. In addition to this a weekly mentoring session of 45-60 minutes via videoconference is set up for each learner to help maintain their motivation for learning.

OpenClassrooms prides itself on its courses providing the skills businesses seek. The learning path descriptions outlined on the OpenClassrooms' website highlight the earning

potential for the course and the likely job prospects and roles that completion of the course is expected to offer (OpenClassrooms, undated d¹⁷).

Figure 1 – Open Classrooms' process for designing learning path courses



Source: Open Classrooms' website

A blog linked to the OpenClassrooms website sets out the process (see Figure 1) the organisation adopts to develop its learning path courses (OpenClassrooms, 2017¹⁸). Firstly they identify jobs for which there are skill shortages. Secondly they determine the skills required for these jobs by analysing trends in the jobs market and understanding employers' needs. Thirdly the education team creates projects which require the core skills so by completing a project a learner will demonstrate they have acquired the necessary skills needed for the job. Finally, once the projects are developed the courses are designed which will teach the learners the skills required to complete the projects. To complete the learning path the learner must complete the projects but the courses designed to help them undertake the projects successfully are not compulsory.

The company is confident enough in its ability to design learning paths which provide the requisite skills to succeed in the employment market that it offers graduates of its learning paths a job guarantee. Subject to terms and

¹⁷ ibid

¹⁸ OpenClassrooms (2017) *Project-driven learning: the key to your success*, <http://blog.openclassrooms.com/en/2017/04/13/project-driven-learning-the-key-to-your-success/> [Accessed 13th September 2018]

conditions outlined on OpenClassrooms' website, graduates who do not secure employment within six months of completing the learning path diploma will receive their money back (OpenClassrooms, undated c¹⁹). This provides a financial incentive for learners to enrol on the diplomas promoted by OpenClassrooms.

Engaging learners

The OpenClassrooms representative in their interview and email correspondence set out the target audience for its programmes and how the company engages with learners. The audience for OpenClassrooms' courses is adults but their age and level of qualification vary from postgraduate level to low levels or no qualifications at all. Often the target audience depends on the requirements of the funding bodies, for example jobseekers as is the case in France.

OpenClassrooms has a web-presence to market its courses. In its partnership with the French government, the government is responsible for promoting OpenClassrooms and its website to jobseekers. Promotion is through several channels including the government's own marketing materials or direct communications with jobseekers as well as via advisors in the French equivalent of job centres.

Pricing

According to the interviewee from OpenClassrooms, in an agreement with the French government, the organisation allows French jobseekers to access OpenClassrooms' short courses free of charge. Under their own volition, or through following advice from a job adviser, the potential learner accesses online training via a dedicated landing page. OpenClassrooms then sends a request to the French employment services including the applicant's job allowance number, subject to user consent, for verification that the applicant is eligible to receive free access to the online training. The employment services then respond to OpenClassrooms to confirm or deny the legitimacy of the applicants who register for the training free of charge. According to email correspondence from the OpenClassrooms' representative, the programmes designed by the company for these jobseekers typically include 400 hours of training over three months.

¹⁹ OpenClassrooms (undated c) *Job Guarantee*, <https://openclassrooms.com/en/job-guarantee> [Accessed 13th September 2018]

Outputs and outcomes

OpenClassrooms' website suggests it has over 2.5 million users across more than 100 countries (OpenClassrooms, undated a²⁰). Its primary markets are French-speaking countries followed by the US, UK, Germany and Spain.

The OpenClassrooms representative suggested by email that the company is planning to reskill 2,000 jobseekers in France by the end of the first quarter in 2019. The commencement date for this activity however is unknown to the researchers of this study.

Lessons

Marketing

Online learning is a newer concept of training method for many learners and so it requires a concerted effort to promote it in order to increase the public's awareness of and engagement with it. The OpenClassrooms' interviewee believes that whenever a government promotes lifelong learning they should highlight the fact that online learning has the potential to be of equal value to more traditional methods in order to boost the number of learners' participating in online training.

Course quality

It is the opinion of the OpenClassrooms' interviewee that the quality of online course content can vary. He advises that a government led online learning initiative should promote courses which include:

- Project-based activities to demonstrate learners' ability to apply the skills they have learnt in order to complete a course. The hands-on nature of this type of activity requires learners to critically and creatively consider how to use their learning in order to solve problems as one would do in their working life.

“Project-based learning enables students to put theory into practice by directly applying new competencies to complex, real-world situations, which in turn allows them to quickly gain proficiency and acquire the concrete competencies and experience employers demand.”

France - Email from Open Classroom interviewee 31/07/2018

- Individual support for learners such as mentors to guide them through the process of completing projects and be available on a regular basis to provide support and answer any questions.

²⁰ OpenClassrooms (undated a) *Who We Are*, <https://openclassrooms.com/en/about-us> [Accessed 13th September 2018]

- Career coaching in order to maximise rates of learner success in completing the course and finding employment.

“We would suggest the UK government promote solutions that include project-driven pedagogy and individual human support, including career coaching in addition to online courses in order to maximise success and employability rates.”

France - Email from Open Classroom interviewee 31/07/2018

Singapore - SkillsFuture

SkillsFuture is based on an ambition that all Singaporeans take responsibility for their lifelong learning and aims to ensure citizens have the skills to contribute to the economic prosperity of Singapore. SkillsFuture Singapore (SSG) is responsible for taking forward this ambition and online learning is one aspect of their training offer. The findings included in this sub-section on SkillsFuture are mostly based on information from SSG's own website, some web articles, and an interview with a representative from SSG as well as a follow up email received from them and an internal document they provided. As such, there is some level of bias as data is primarily drawn from internal documents as opposed to independently reviewed evaluation.

Policy context

The SkillsFuture programme was introduced in 2014 to encourage Singaporeans to engage in lifelong learning and to provide these citizens with the opportunities for them to reach their economic potential. The SkillsFuture marketing literature states the wish for the Singaporean workforce to develop the skills they need to meet the changing needs of the economy in an age of technological advancements and globalisation. One of the crucial concerns in Singapore was the ability of the workforce to adapt to a changing economy facing many pressures that will be familiar to UK readers including globalisation and the attendant change in competition and an ageing population. This is illustrated in the following quote from Deputy Prime Minister Tharman Shanmugaratnam:

“...we have to equip people with the skills that enable them to work in a technology-enriched world, so that we preserve jobs and so that jobs get better...Through SkillsFuture, we're going to invest in every individual throughout life. It's not just what happens in the first 12 or 16 years of your education...we have to reduce our focus on the

grades you get early in life, and increase our focus on investing, in developing everyone's abilities and skills through life.”²¹

The SkillsFuture programme is perceived to be a long-term endeavour to alter the way in which Singaporeans view their education and lifelong learning. The aim is to change the culture so that both individuals and businesses take more responsibility to update their own/employees' skills to meet the future needs of the economy. It is recognised that this will take time to achieve.

“It’s a long-term mission because it’s about changing mind-set...so [citizens] take ownership of their learning and in employers so they would pick productive actions towards their staff development.”

Singapore - SSG interviewee

According to its website, SkillsFuture Singapore (SSG) is a statutory board under the Ministry of Education which promotes a culture of lifelong learning and aims to improve the quality of Singapore’s education and training (SSG, 2018a²²).

SSG provides the infrastructure to drive forwards the SkillsFuture programme. This infrastructure includes many elements, some of which include:

- Partnerships with key stakeholders from government departments, unions and industry to design and deliver the necessary training programmes; referred to as a “tripartite of partners” by the SSG representative who described this as a commonly adopted approach in Singapore;
- Financial subsidies and other non-financial support to incentivise Singaporeans to invest in skills development and learning throughout life; and
- An online portal known as MySkillsFuture to engage the public in the activities and enable them to take responsibility for reviewing and improving their skills.

“We need the support of our training providers, including those in the public domain like the IHLs (Institute of Higher Learning). We also consult employers to know what they want and try to encourage them to send workers for training. This is why we’ve got the stakeholders we have, employers and industry. A lot of this was also done in collaboration

²¹ Shanmugaratnam, T. (2015) *Ensuring progress in a world of troubles*, <https://www.straitstimes.com/opinion/ensuring-progress-in-a-world-of-troubles> [Accessed 11th November 2018]

²² SkillsFuture Singapore (2018a) *About Us*, <http://www.ssg-wsg.gov.sg/about.html> [Accessed 13th September 2018]

with the unions as well. It's a typical Singapore perspective where we work with our tripartite partners...It's a whole national effort."

Singapore - SSG interviewee

Features of MySkillsFuture portal

Function

MySkillsFuture as outlined on its website is a one-stop education, training and career guidance online portal which aims to empower every Singaporean to integrate continuous education and training into their working life (SSG, 2017a²³). Using this portal Singaporeans can:

- Identify their interests, abilities and career aspirations;
- Consider education pathways before they enter the workforce;
- Find suitable jobs; and
- Access training and submit claims for their personal skills fund, SkillsFuture Credit.

The courses promoted on the MySkillsFuture website on its Training Exchange are (SSG, 2018d²⁴):

- Aimed principally at adults already in employment;
- Provided in a variety of ways, one of which is online but they also include classroom and workplace training;
- More than 25,000 in number, including nearly 3,000 listed under 'online courses'²⁵;
- Available in a range of levels from courses accredited by SkillsFuture Singapore where successful completion leads to the award of a formal 'Workforce Skills Qualification (WSQ)' certificate, to other programmes offered by private training providers and IHLs, including modular, industry-relevant and full qualification courses such as diplomas and master's programmes;

²³ SkillsFuture Singapore (2017a) *Home page*, <https://www.myskillsfuture.sg/content/portal/en/index.html> [Accessed 13th September 2018]

²⁴ SkillsFuture Singapore (2018d) *Training Exchange*, https://www.myskillsfuture.sg/content/portal/en/training-exchange/course-directory.html?fq=Course_Supp_Period_To_1%3A%5B2018-09-13T00%3A00%3A00Z%20TO%20*%5D&fq=IsDisplaySFC%3Atrue&q=Tags%3A%22Online%20Courses%22 [Accessed 13th September 2018]

²⁵ *ibid*

- Available in different lengths of duration. There are short courses which take from half to a couple of days to complete to courses which include qualifications which can take from six to 12 months to complete.

Outreach and engagement

SSG launched the SkillsFuture Festival to promote skill mastery and lifelong learning. The SkillsFuture Festival, as outlined on the SSG website, was a month of varied events held throughout Singapore to increase the engagement of Singaporeans in various SkillsFuture initiatives (SSG, 2018c²⁶). SkillsFuture Festival's webpage also offered links to online learning content such as e-books, online courses and how-to videos in professional and personal development to help users develop new skills (SSG, 2018b²⁷). These online learning activities were provided at a reduced rate for the duration of the SkillsFuture Festival.

In addition to online promotion and an annual event, SkillsFuture also offers SkillsFuture Advice, an initiative to assist Singaporeans requiring additional support to access the learning opportunities made available by SSG. For example, if they are not able to engage with and access services online (SSG, 2017d²⁸), they can sign up for SkillsFuture Advice workshops where SSG partners with the Community Development Council's under the People's Association advise them about various SkillsFuture initiatives and learning options based on their personalised career and learning plans.

Funding model

Funding of the course

SSG's continuing education and training efforts are financed through three key sources of funds, namely, the Skills Development Fund, the Lifelong Learning Endowment Fund and the National Productivity Fund. The Skills Development Fund is financed by the Skills Development Levy (SDL), a mandatory levy imposed under the SDL Act on employers for all employees rendering services in Singapore (including foreign employees and employees employed on casual, part-time, or temporary basis).²⁹ The

²⁶ SkillsFuture Singapore (2018c) *SkillsFuture Festival*, <https://www.myskillsfuture.sg/festival/about.html> [Accessed 13th September 2018]

²⁷ SkillsFuture Singapore (2018b) *Learn on the go through our Virtual Festival*, https://www.myskillsfuture.sg/festival/learn_res.html [Accessed 13th September 2018]

²⁸ SkillsFuture Singapore (2017d) *Start Your SkillsFuture Journey Today*, <http://www.skillsfuture.sg/advice> [Accessed 13th September 2018]

²⁹ SkillsFuture Singapore (2016) *Skills Development Levy*. The SDL website sets out how it works in more detail: <https://sdl.ssg.gov.sg/> [Accessed 13th September 2018]. The SDL is calculated based on 0.25

SDL due is based on the employee's salary³⁰ but, unlike the Apprenticeship Levy in England, there is no exemption for employers based on the number of people employed and/or the businesses turnover. All SDL collected is channelled to the Skills Development Fund (SDF) which is used to support workforce upskilling programmes and to provide training grants to employers when they send their employees to attend training.

Payment for the courses

SSG has a co-payment model for its courses. SSG subsidises up to 70% of the course fee (and higher course fee subsidies are available for mature and lower-wage workers) depending on the eligibility criteria, and learners pay the remaining amount. The cost to the learner can be further reduced if the course is eligible for SkillsFuture Credit (see further details below) and the learner chooses to use this contribution.

"...we have a co-payment model. We have a course, for instance, may cost \$100 and then the funding comes from SkillsFuture [could be] 70% of the course fee, and then the remaining 30% will then be payable by the individual. If this course is one of the SkillsFuture credit eligible programmes, then there's also the credit that the individuals can use to offset what they need to pay."

Singapore - SSG interviewee

SkillsFuture Credit is a government contribution of S\$500 made available to all Singaporeans aged 25 and over to use on training courses. Its purpose is to encourage Singaporeans to undertake lifelong learning and empower them to decide the best way in which they would like to upskill or retrain.

"...there are enhanced subsidies so that we can help people offset the cost of training. We have also introduced the SkillsFuture credit. Every individual will have \$500 and with this they can attend any course that they would like to do. It could be work related or something they think they'll need in career progression. This is to empower an individual for lifelong learning and to encourage him or her to learn."

Singapore - SSG interviewee

An analysis of the Frequently Asked Questions on the SkillsFuture Credit part of the MySkillsFuture.sg portal provides a description of this fund, how it works, and who is eligible (SSG, 2017c³¹). From its introduction in January 2016 the S\$500 credit is

percent of the employee's monthly salary subjected to a minimum payable of \$2 (for an employee earning <\$800 a month) and a maximum of \$11.25 (for an employee earning >\$4,500 a month).

³⁰ Although there are a few categories of employees exempted.

³¹ SkillsFuture Singapore (2017c) *Skills Future Credit*, <https://www.myskillsfuture.sg/content/portal/en/header/faqs/skillsfuture-credit.html> [Accessed 13th September 2018]

available to all Singaporeans aged 25 and over. The credit does not expire and is non-transferable. It is anticipated that the Government will provide top-ups to this credit in future depending on take up rates, its fiscal position, and overall training participation rates. No top-up contributions appear to have been made since the introduction of SkillsFuture Credit. The credit is administered by SSG. SkillsFuture Credit is intended to be used to cover or offset out-of-pocket course fees for participation in approved courses. The credit is made available virtually to users through a SkillsFuture Credit account in the MySkillsFuture portal, where learners can check their balance, pay their training providers directly on the portal.

The SkillsFuture Credit can be used for all courses listed on the Training Exchange in the MySkillsFuture portal which can be found here: <http://www.skillsfuture.sg/credit/>. The credit can be used to cover course fees, assessment fees, and certification fees but not the registration process or course materials.

Outputs and outcomes

The information publically available on the performance of SSG is relatively limited, particularly in relation to how it relates to initial expectations. Furthermore it is not possible to isolate the achievements in relation to the online elements of adult training in particular.

Rates of participation

A Ministry of Manpower (MOM) report shared by the SSG representative interviewed indicates that participation in job-related structured training or education activities in the last 12 months for Singaporeans of working age (aged 15 to 64) increased to 48% in 2017 from a dip in 2015 of 35% (following a high of 36% in 2014). This is a percentage increase of 13 points (MOM, 2017³²). The report however does not allude to the increase in participation being directly attributable to the introduction of SkillsFuture.

According to the SSG's 2016/17 annual report in 2016, 418,000 individuals took up 950,000 training places funded by the Ministry of Education and SSG (SSG, 2017³³). By October 2018 SkillsFuture Credit has been used by over 370,000 Singaporeans for more than 25,000 courses (Ministry of Education, 2018³⁴). Although a few articles have noted a

³² Manpower Research and Statistics Department (2017) *Labour Force in Singapore 2017* Singapore: Ministry of Manpower p.18

³³ SkillsFuture Singapore (2017) *Reimagining our future workforce – Annual report 2016/17* Singapore: SkillsFuture Singapore

³⁴ Ministry of Education (2018) *Opening Address by Minister for Education Ong Ye Kung, at the Singapore International Technical and Vocational Education and Training Conference*, <https://www.moe.gov.sg/news/speeches/opening-address-by-minister-for-education-ong-ye-kung-at-the->

number of high profile cases of fraudulent claims made for the SkillsFuture Credit worth tens of millions of Singaporean dollars for training courses not undertaken.³⁵

Lessons

The quality and choice of the training undertaken by individuals is as important as the quantity and variety of training programmes available. According to the SSG representative interviewed, SSG has previously made high volumes of courses available to adult learners. From the Singaporean government's perspective it is also crucial that individuals are guided to the training which will have the greatest impact on their employability, rather than offering too many options which may lead to confusion. To help guide individuals, SSG introduced SkillsFuture Advice which was mentioned earlier. In July 2018, SSG also introduced the Training Quality and Outcome Surveys (TRAQOM) system, whereby learners' ratings on the quality and outcome of the training programmes will be published on the relevant course page on Training Exchange. This will enable potential learners to make informed choices about which course to select by comparing ratings across courses. The surveys are due to be rolled out to all SSG-funded courses on Training Exchange by mid-2019.³⁶

Ireland – eCollege

Our findings on the eCollege online adult learning initiative in Ireland are predominantly based on the websites linked to the programme and some media articles.³⁷ The nature of these sources means that the information presented describes the programme. Little information was available regarding the determinants of its particular design, its outcomes or lessons learnt.

[singapore-international-technical-and-vocational-education-and-training-tvet-conference](#) [Accessed 11th November]

³⁵ Low, V. (2018) *Less than 12% of Singaporeans use their \$500 SkillsFuture Credit to sign up for courses*, <https://www.theonlinecitizen.com/2018/02/02/less-than-12-of-singaporeans-use-their-500-skillsfuture-credit-to-sign-up-for-courses/> [Accessed 11th November 2018]; and Sim, Fann (2018) *More than 285,000 Singaporeans benefitted from SkillsFuture Credit since launch*, <https://www.channelnewsasia.com/news/singapore/more-than-285-000-singaporeans-benefited-from-skillsfuture-9915914> [Accessed 11th November 2018]

³⁶ SkillsFuture Singapore (2018e) *Training Quality And Outcome Measurement (TRAQOM) Initiative*, <http://www.ssg.gov.sg/training-measurement.html> [Accessed 11th November 2018]

³⁷ Efforts to make contact by CFE and DfE with eCollege representatives during the timeframe of this review to identify further information were unfortunately unsuccessful.

Policy context

In 2013 the Department of Education in Ireland established the agency SOLAS as a recommendation from the Further Education and Training Act (SOLAS, 2015b³⁸). SOLAS is responsible for funding, planning and co-ordinating Further Education and Training (FET) in Ireland. It works with 16 Education and Training Boards (ETBs) to support the development of FET programmes and curricula and source delivery from the private, public and not for profit sector.

According to its website, SOLAS is governed by a board and has over 200 staff with a range of skills and specialisms working across ten divisions. It has an annual budget of approximately €638m funded through the Irish Exchequer and the European Social Fund (SOLAS, 2015a³⁹). It manages several national training programmes including the online learning programme eCollege.

Features of eCollege

eCollege is a learning institution delivering online and distance training courses. The eCollege website outlines the key characteristics of this initiative, summarised below (eCollege, 2018a⁴⁰).

Course design and delivery

The courses provided via eCollege as outlined on its website cover: business, project management, SQL, Cisco, graphic design, web design, digital marketing, software development and basic computer literacy (eCollege, 2018b⁴¹). The choice of courses made available by eCollege appear to be selected in order to meet a perceived demand. SOLAS' 2016 annual report indicates that IT courses are the most popular but an increased demand had been experienced more recently in digital marketing and creative design courses.

“IT courses still form the bulk of the demand led provision. However in 2016 there was an increase in demand for courses in digital marketing, creative design courses in design for

³⁸ SOLAS (2015b) *Who We Are*, <http://www.solas.ie/Pages/WhoWeAre.aspx> [Accessed 13th September 2018]

³⁹ SOLAS (2015a) *Governance*, <http://www.solas.ie/Pages/Governance.aspx> [Accessed 13th September 2018]

⁴⁰ eCollege (2018a) *About eCollege*, <https://www.ecollege.ie/moodle/mod/page/view.php?id=28596> [Accessed 13th September 2018]

⁴¹ eCollege (2018b) *Courses*, <https://www.ecollege.ie/moodle/course/index.php?search=1&view=0> [Accessed 13th September 2018]

the web and design for print media and in retail skills and Health and Safety training” (SOLAS, 2016⁴²).

A sub-site of the eCollege website, eCollege Career Pathways, provides a roadmap linking the online courses provided to prospective job paths for a range of professions e.g. Graphic Design, Programming or Accountancy (eCollege, 2017⁴³). This suggests that there has been some consideration to ensure the content of the courses is linked to the skills required for these job roles.

eCollege courses are delivered through the online learning system Moodle. The courses contain eLearning content including online tutorials, simulations, videos, animations, eBooks, virtual labs and assessments and assignments.

In terms of enrolment processes, the courses are available on a continuous intake basis with no waiting lists. The length of each course, according to a SOLAS education and training strategy, depends on the individual course (typically last 16-24 weeks) and on the pace at which the learner progresses (SOLAS, 2014⁴⁴). Learners are recommended to access their online course every day and cover 2-3 topics then put into practice what they have covered online offline.

The eCollege assessment process is not fully online. Whilst the exams or assessment are administered online, learners must attend an approved test centre for their course in order to take it. Test centres are regulated by the Test Administrators for the specific courses. An administration fee of €32 may apply for learners using the test centres. According to the eCollege website all of the courses lead to industry recognised certifications.

Learner support

eCollege’s courses are delivered completely online however learners can access support from dedicated daily eTutors (outlined below). This support is available throughout duration of the course. The service is provided by eTutors who work across all disciplines and from Monday to Friday. The learners are able to make contact with their eTutors to

⁴² SOLAS (2016) *Promoting Further Education and Training provision that is relevant to the individual learner needs and national skills needs – Annual Report 2016*, Ireland: SOLAS, <http://www.solas.ie/SolasPdfLibrary/SOLAS%20Annual%20Report%202016.pdf> [Accessed 13th September 2018]

⁴³ eCollege (2017) *eCollege Career Pathways*, https://www.ecollege.ie/moodle/pluginfile.php/88848/mod_resource/content/1/index.html [Accessed 13th September 2018]

⁴⁴ SOLAS (2014) *Further Education and Training Strategy 2014-2019*, <https://www.education.ie/en/Publications/Policy-Reports/Further-Education-and-Training-Strategy-2014-2019.pdf> [Accessed 13th September 2018]

raise any queries via a messaging service and the eTutors must respond to the learner by message, call, or text.

In addition to answering any queries from learners, eTutors support learners in the following ways:

- Assist them to activate their account and progress through their course materials, this role includes setting and correcting assignments.
- Identify, once the learner has completed the course, an Approved Test Centre where the learner can undertake their certification; and
- Following the course certification process the eTutor assists the learner in progressing to further education, training or employment.

Target audience

The eCollege courses are aimed at three types of people: jobseekers; upskillers; employers.

Firstly, 'jobseekers' can access courses which are designed to meet the specific skills needs of job-ready individuals who require certification to become employed. Those in receipt of social welfare (Jobseekers in receipt of Jobseeker's Allowance, Jobseeker's Benefit, Disability Allowance or One Parent Family Allowance and those signing on for credits) can discuss their course options and enrol via their local employment office (Department of Social Protection (DSP)). The Employment Service Officer is required to verify the potential learner's eligibility from their system. Jobseekers registering for an eCollege course continue to sign with DSP and retain their allowance or benefits.

Secondly, 'upskillers' are learners who are employed people and seek to update their skills. This type of learner pays for their courses. Finally, 'employers' are the businesses which can use eCollege courses to improve the skills of its workforce.

Funding

The eCollege programme costs in 2017, as set out in SOLAS' Annual Report for the year, were €1,915,000 up from €1,686,000 in 2016 (SOLAS, 2017⁴⁵). The cost of the online courses to learners varies according the type of learner as follows:

- 'Jobseekers' can access the courses free of charge;

⁴⁵ SOLAS (2017) *Annual Report and Accounts 2017* Ireland: SOLAS
http://www.solas.ie/SolasPdfLibrary/14438_SOLAS_annual_report_2017_english_web.pdf [Accessed on 11th November 2018]

- ‘Upskillers’ must pay a fee to use the service; and
- ‘Employers’ receive a subsidised rate available from SOLAS.

The eCollege course fees (if applicable) include, according to its website (eCollege, 2018a⁴⁶):

- All course materials;
- eTutor support five days a week;
- Practice tests and examination costs;
- Online access to course 24/7; and
- Licensed software (if applicable) provided for the relevant course’s duration.

Outputs and outcomes

According to an article on one of eCollege’s partners, in 2015 the initiative delivered 36 online training programmes (Enovation, 2015⁴⁷). According to figures for 2017, the beneficiaries of eCollege’s online learning included 10,157 jobseekers and, on a fee paying basis, approximately 500 employed learners. The number of unemployed learners appears to have increased since 2016 while the number of fee paying learners has reduced (approximately 9,000 and 1,000 in 2016 respectively according to SOLAS’ Annual Report⁴⁸). The reported outputs in 2017 appear to have reversed the trend observed the year before. SOLAS’ 2016 Annual Report refers to the profile of beneficiaries having altered with the number of fee paying learners increasing (SOLAS, 2016⁴⁹). The report’s authors suggest this shift reflects a change in the market but no further explanation of this is provided:

“...this represents a shift from provision for jobseekers to support for those in employment and is an indication of the changing market.”

In terms of outcomes for beneficiaries, results from the 2013 *Follow-up Survey of Course Participants*, described in a partner’s online article, indicated that nearly half (over 45%) of the unemployed learners undertaking eCollege courses achieved a job placement

⁴⁶ eCollege (2018a) *About eCollege*, <https://www.ecollege.ie/moodle/mod/page/view.php?id=28596> [Accessed 13th September 2018]

⁴⁷ Enovation (2015) *SOLAS’ eCollege awards major contracts to Cenit College and Enovation Solutions*, <https://enovationsolutions.co.uk/solas-ecollege-awards-major-contracts-to-cenit-college-enovation-solutions-2/> [Accessed 13th September 2018]

⁴⁸ SOLAS (2016) *Promoting Further Education and Training provision that is relevant to the individual learner needs and national skills needs – Annual Report 2016* Ireland: SOLAS

⁴⁹ SOLAS (2016) *Promoting Further Education and Training provision that is relevant to the individual learner needs and national skills needs – Annual Report 2016* Ireland: SOLAS

(Enovation, 2015⁵⁰). It is not clear the extent to which this was in line with expectations for the online learning initiative.

⁵⁰ Enovation (2015) *SOLAS' eCollege awards major contracts to Cenit College and Enovation Solutions*, <https://enovationsolutions.co.uk/solas-ecollege-awards-major-contracts-to-cenit-college-enovation-solutions-2/> [Accessed 13th September 2018]

4. Non-government led online adult learning initiatives

In the REA for government led online adult learning initiatives a few examples of online adult learning initiatives led by organisations other than national or federal governments were identified. Following this an additional REA focused on non-government led initiatives to support the development of adult retraining or upskilling was undertaken. Whilst the REA confirmed that there was little academic and 'grey' literature available on this subject a further general online search of websites and articles identified a couple of examples relevant to this study. The most detailed example identified of non-government led provision of online adult learning is a corporate example led by AT&T in the USA for the benefit of their employees. Whilst this initiative is not open to the public it has been included in this report as it provides some lessons which might be of interest to the DfE in any future development of online adult learning programmes.

USA – AT&T

The REA identified a number of web articles which highlight the significant investment AT&T has made in its internal reskilling programme for its workforce and the steps it has taken to make much of the training available online.

Context

AT&T is a multinational telecommunications company which employs 254,000 people. According to AT&T's CEO in an online article by Rio, the company invests \$250 million on training programmes annually which equates to 19 million hours of learning (Rio, 2018⁵¹).

AT&T has developed a reskilling programme over the last six years. This is in response to a realisation ten years ago that its employees did not have the skills required for the company to prosper in a technologically advancing workplace. According to another article written by Caminiti only about half of its 250,000 employees had the necessary science, technology, engineering or maths (STEM) skills the company required and 100,000 employees worked in jobs with hardware functions likely to be obsolete in the near future (Caminiti, 2018⁵²). Rather than try to recruit new employees AT&T decided it was more financially viable to reskill its existing employees.

⁵¹ Rio, A. (2018) *AT&T: Committed to the Future*, <https://www.clomedia.com/2018/05/24/att-committed-future/> [Accessed 13th September 2018]

⁵² Caminiti, S. (2018) *AT&T's \$1 billion gambit: Retraining nearly half of its workforce for jobs of the future*, <https://www.cnbc.com/2018/03/13/atts-1-billion-gambit-retraining-nearly-half-its-workforce.html> [Accessed 13th September 2018]

Features of online training

According to the article by Rio, originally called 'Workforce 2020' AT&T's reskilling programme has recently been rebranded as 'Future Ready' to indicate that the company plans to continue its reskilling effort past 2020 (Rio, 2018⁵³). The programme focuses on training existing employees with the skills the company needs for the future. The programme includes online courses, including collaborations with universities to provide online Masters of Science degrees in computing and data science, and an online portal where employees can see which internal jobs are available, the requisite skills, the salary range, and whether the role is in an area likely to grow or contract in future. The latter presents employees with a guide to steer them from their current job role to one the company will require in future.

The article by Caminiti describes the key outputs of AT&T's reskilling programme (Caminiti, 2018⁵⁴). It is anticipated that by 2020 100,000 AT&T employees will have been retrained for new jobs with the appropriate skills for the company to be competitive. To date the outputs of the reskilling programme are as follows: over half of AT&T's employees have completed 2.7 million online courses in areas such data science, cybersecurity, Agile project management and computer science; approximately 57,000 employees have been awarded 177,000 certifications indicating they have completed coursework; 475 employees have enrolled in Georgia Institute of Technology's online Master of Science computer science programme, of which nearly 80 have graduated. The outcomes for the employees are that those who retrain are two times more likely to be hired into one of the newer jobs most in demand at AT&T (data scientist, app developers, and roles related to cloud computing) and four times more likely to make a career advancement.

Rio's article sets out other online training in which AT&T has invested (Rio, 2018⁵⁵). In the last year AT&T has reportedly invested in interactive virtual learning studios and converted the majority of its leader-led (i.e. physical face-to-face) courses so they can be delivered using an interactive virtual learning system. The instructors are in a studio and they broadcast to learners with a two-way communications system so the learner can ask questions at any time. This system offers the sense of a classroom experience but the learner can be participating from any location.

⁵³ Rio, A. (2018) *AT&T: Committed to the Future*, <https://www.clomedia.com/2018/05/24/att-committed-future/> [Accessed 13th September 2018]

⁵⁴ Caminiti, S. (2018) *AT&T's \$1 billion gambit: Retraining nearly half of its workforce for jobs of the future*, <https://www.cnbc.com/2018/03/13/atts-1-billion-gambit-retraining-nearly-half-its-workforce.html> [Accessed 13th September 2018]

⁵⁵ Rio, A. (2018) *AT&T: Committed to the Future*, <https://www.clomedia.com/2018/05/24/att-committed-future/> [Accessed 13th September 2018]

An example of where AT&T has used this type of learning is for retail training and it is described in Rio's article (Rio, 2018⁵⁶). This course originally took place over a two-week period in a classroom environment. However, virtualisation of the programme has enabled learners to work and train at the same time over 90 days. In 2017 nearly every new part-time retail recruit was trained using interactive virtual learning studios. The impact on the company of this change in the delivery of the programme for retail trainees was reportedly a saving of nearly \$15 million in travel expenses. In addition the performance of new retail recruits was said to be better in terms of service and sales at 60 days than those who had previously been trained in traditional classroom environments. The CEO suggests that the virtual learning environment is also more natural for the trainee rather than having to travel to a training centre and sit through a long learning programme.

Lessons

The online portal is perceived to be a critical tool in encouraging employees to take up training. Its important role was highlighted in joint article in the Harvard Business Review by AT&T's chief strategy officer and group president and Deloitte's Vice Chairman and Managing Principal (Donovan and Benko, 2018⁵⁷). The easily accessible online platform allows employees to reflect and plan their career development by identifying the training required to progress their plans. In this way the portal empowers members of the workforce and encourages them to take ownership of their retraining and upskilling needs. It is anticipated that such actions will lead to greater personal responsibility for lifelong learning to meet the changing needs of the workplace and the wider economy.

⁵⁶ *ibid*

⁵⁷ Donovan, J. and Benko, C. (2016) *AT&T's Talent Overhaul* in Harvard Business Review, <https://hbr.org/2018/02/how-tech-companies-can-help-upskill-the-u-s-workforce> [Accessed 13th September 2018]

5. Conclusions

There is a very limited amount of information publically available regarding international examples of government led online adult learning initiatives focused on upskilling or retraining. We conclude the following from this evidence to inform policy in this area.

- The content of most of the online provision identified in this study is related in some way to skills broadly described as digital skills, such as IT, digital marketing, online publishing, etc. Further research is required to understand if these are the skills most suitable for learning through online training and how online learning can provide a training solution for sectors where digital skills do not form most of their occupational functions.
- Online learning initiatives tend not to be the traditional way in which the general public considers training, so raising awareness of such services to a wider market may require a series of marketing and communications tools. In the example of SSG's MySkillsFuture portal, the organisation introduced a month of roadshow activities across the country to communicate the Skills Future programme face-to-face with the public. It also has an advice team to run workshops with citizens requiring assistance to access the services online. The financial viability of these services is a serious consideration, especially given the funding restrictions currently faced across the state education sector.
- Early identification of the specific target learner audience is necessary to provide cost effective solutions for national workforce planning. The SSG example shows that learners were taking the “wrong” courses from a national economic perspective: learner demand did not match national demand. On the other hand OpenClassrooms grew organically by servicing demand from employers and AT&T has coordinated its training directly with the skills in which it wants its workforce to be competent in future. In the latter example AT&T has also provided information regarding salary ranges and the likely future prospects for jobs linked to particular courses. This move could help learners make appropriate choices regarding their learning options and maximise their potential to increase their earnings through upskilling or retraining.
- Mentoring of some form is used in most of the online learning services identified in this study, and so a government led service could require a resourced mechanism to provide support to learners. For example the eCollege initiative in Ireland provides access to eTutors by a messaging service and the OpenClassrooms' learning pathways include personal mentors offering up to one hour's dedicated support via video conference per week. A further step, as suggested by OpenClassrooms, would be to introduce a careers coach to assist the learner to identify the most appropriate online training to gain the technical competencies for those jobs currently experiencing skills shortages.

- Online portals are an effective way to encourage adults to take responsibility for their own career development and upskilling. A personalised online interface could be created for learners to diagnose their skills' needs, identify the training to address these gaps, and/or access and manage financial contributions to purchase courses. An important role of AT&T's portal is to empower its employees to address their skills needs and Singapore's MySkillsFuture enables its learners to access their financial credits to help fund the training of their choice.. A further benefit of an online portal is to promote occupations with high vacancy rates or skills shortages to portal users with the requisite skills and/or experience. FUN used its online platform to trial an approach to increase the public's understanding about the skill requirements for jobs within social care. Based on FUN's testimony, this provided a good way to inform the public of the types of occupations in the sector whilst gauging the individual's suitability for roles.

Recommendations for further research

The parameters of this international review into government led online adult learning initiatives sought to identify literature which was publically available and in English. This means there is some scope for the research questions in this study to be explored using other parameters. We recommend that DfE consider the following in their search for evidence to inform their policy development on online adult learning.

- Identify and analyse foreign language documents which might address some of the research questions. The annotated bibliographies⁵⁸ developed for this study include a number of links and references to non-English documents which could prove useful to follow up.
- Engage the representatives of the online adult learning programmes interviewed for this study to access any additional evidence on the outcomes of their initiatives which were not yet available, for example the perceived value of their courses for learners and employers and any impacts achieved.
- Refresh the review of publicly available literature at six month intervals using the existing search terms. This will identify any new documents as they are published. An alternative is agree a few more specific search terms (e.g. "state funded online learning" adult; "government funded e-learning" adult; etc.) and initiate a Google Alert to monitor online publications and articles using these terms. Specific search terms are necessary to make searches manageable.

⁵⁸ Available on request.

- Further target the parameters of the search to explore more specific programmes, activities or projects rather than trying to identify whole government-led solutions. Targeting could be informed by either the existing literature, or interviews with key employers and/or sector representatives. These interviews should identify current and future skills gaps and any reportedly effective government-funded online learning initiatives, projects or techniques addressing skills deficits.

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Appendix 1: List of search terms

Introduction

CFE Research employed the search terms and parameters below for the systematic international review of government and non-government led online adult learning initiatives. A review of academic and grey literature was undertaken first using the main and secondary topics to help identify the target countries. Once the target countries were identified a review of government, provider, media and other websites was conducted to try to identify information regarding online adult learning programme policy design, provision, funding and evaluation.

Search terms

Please note:

- “/” separates synonymous terms (not to be used in combination with each other);
- “+” joins different terms (to be combined); and
- The search terms in bold were used only for the review of government led examples.

Main topic

- **State-funded / Federal-funded** + online + learning + adult /
- **State-funded / Federal-funded** + online + training + adult /
- **State-funded / Federal-funded** + e-learning + adult
- **State-funded / Federal-funded** + digital + learning + adult
- **Government-funded** + online + learning + adult /
- **Government-funded** + online + training + adult /
- **Government -funded** + e-learning + adult
- **Government -funded** + digital + learning + adult

Secondary topic

- Intermediate + skills / upskilling / retraining
- Funding + model / costs

- Initiatives / programmes / provision / design
- Strategy / policy / systems / programmes / models

Location

- Ireland / USA / Singapore / Germany / France / Canada / Brazil / Australia / New Zealand / Netherlands / Sweden

Users

- Audience / target + group

+

- Volume / numbers

Effectiveness

- Good + practice / what + works / best + practice / success
- Lessons / barriers / challenges / improvements
- Outputs / outcomes
- Evaluation

New technology

- New technology / innovative + technology / artificial intelligence

Search Parameters

Databases

The review was undertaken via a generic academic library portal followed by general internet search. On the assumption of ranked search returns, the first five pages of results were checked.

Language

The literature to be included in the review was published in English.

Date

The literature reviewed was published within the last 10 years.

Annex: Badging

This section summarises the findings from CFE Research’s review of literature regarding the application and value of “badging” in the context of online adult training accessible to the public. The three research questions of interest in this search were:

- RQ1: What is badging?
- RQ2: How is it applied in the context of online training which is accessible to the public?
- RQ3: What is the evidence of the perceived value of badging?

Table 2 summarises the extent to which the evidence identified in this review is able to answer the research questions. Using a simple ‘traffic light’ system, the table indicates the coverage of evidence for each RQ. The literature in general on this topic is limited and in particular regarding its application to publically accessible online training opportunities and its perceived value.

Table 2: Summary of coverage for ‘badging’ – extent each research question is covered by available evidence

Research question	Coverage
RQ1: What is badging?	Medium
RQ2: How is it applied in the context of online training?	Low
RQ3: What is the evidence of the perceived value of badging?	Low

The following section commences with a brief explanation of badging. This is followed by examples of ways in which badging is applied in the context of online training accessible to members of the public. Finally, we consider the perceived value of badging.

What badging is

A “badge” is a digital record of a learning outcome which contains information about the issuer of the badge and the work undertaken to achieve it. The terms “badge”, “open badge”, “digital badge”, “digital credential”, and “micro-credential” are used in the literature interchangeably. The badge could represent a range of learning achievements from professional credentials, academic certification, and technical competencies to soft skills.

According to an academic article by Janzow explaining the use of badges, the badge is a digital image file within which the following type of data fields can be embedded (Janzow, 2014-15⁵⁹):

- The name of the achievement;
- A description of what the achievement involved;
- Background information about the badge issuer and their authority to award it;
- The criteria defined by the issuer to determine who qualifies for the badge;
- The evidence provided by the learner to demonstrate they qualify for the badge;
- Any links to the external standards to which the achievement is aligned;
- The date the badge was issued (and if applicable the date it will expire); and
- Keyword tags to better enable the search and identification of the achievement e.g. related skills or occupations.

The fields outlined above form part of the Open Badge specification created by Mozilla to provide a standardised framework for their development and use (Janzow, 2014-15⁶⁰). Other specifications exist and therefore the above is to be viewed as an indicative example rather than a definitive account of the information that is always included within a badge.

A further academic article describing badges, explains that badges are fully portable and can be displayed anywhere on the web (Grant, 2014⁶¹). By clicking on the badge someone can view the relevant information about a learner's skills and knowledge.

The application of badging in online training

The focus of the literature search into the application of badging was intended to be international examples whereby members of the public could access this form of accreditation for online training. The vast majority of examples identified however applied to university and college initiatives, courses for their students or company training programmes for employees. The only detailed example of the use of badges open to the public found in this REA is based in the UK.

⁵⁹ Janzow, P. (2014-2015): 'Connecting Learning to Jobs Through Digital Badges', *The Catalyst*, vol. 42, no. 2, p.9.

⁶⁰ *ibid*

⁶¹ Grant, S. (2014): 'Badges: Show What You Know', *Young Adult Library Services*, vol. 12, no. 2, p.30.

Open University's Badged Open Courses

The information regarding the Open University's use of badges has been identified in academic articles and via its own OpenLearn website. The Open University created OpenLearn in 2006 to deliver open educational resources (OER) which is learning content freely accessible to the public (Law, 2015⁶²). The Open University launched a number of online badged open courses (BOCs) on its OpenLearn platform in 2014. A review of the Open University's OpenLearn website indicates that the number of BOCs have increased to 37 in recent years (OpenLearn, 2018⁶³). Courses cover the following six subject areas: Education and Development; Health, Sports and Psychology; Languages; Money and Business; Science, Maths and Technology; and, Society, Politics and Law. The majority are level one (introductory) but there is one instance of a level two 'intermediary' course (Health, Sports and Psychology – Facilitating learning in practice) and two examples of a level 3 'advanced' course (Science, Maths and Technology – Mastering systems thinking in practice, and - Returning to STEM).

According to the Open Learning article, the online badged courses have assessed curriculums and aim to improve learners' skills and employability (Law, 2015⁶⁴). These online BOCs each involve 12 to 24 hours of learning. Learners are advised to complete the latter over eight weeks with three hours of study per week. The courses are delivered in a standalone and unsupported environment, i.e. there are no tutors. The learners' progress on the courses is assessed via Moodle quizzes which are free of charge to access. Test quizzes are introduced early in the courses to provide a formative assessment and enable learners to get used to them. To attain the Open University badge learners must view every page of the online course and have passed the quizzes in the latter half of the course with a score of at least 50%. Learners have three attempts to pass the quiz and can return after 24 hours to re-sit the quiz after which time the responses will be reset and a further three attempts allowed.

Value of badging

Badging is perceived by its advocates as valuable in a number of ways and for a variety of audiences, although there is little evidence presented as a foundation for this claim beyond the literature on motivation. These perceptions are outlined in the following sub-section.

⁶² Law, P. (2015) Digital badging at The Open University: recognition for informal learning, *Open Learning: The Journal of Open, Distance and e-Learning*, Volume 30, 2015 - Issue 3 p.222

⁶³ OpenLearn (2018) *Badged Courses* see: <http://www.open.edu/openlearn/get-started/badges-come-openlearn> [Accessed on 13th September 2018]

⁶⁴ Law, P. (2015) Digital badging at The Open University: recognition for informal learning, *Open Learning: The Journal of Open, Distance and e-Learning*, Volume 30, 2015 - Issue 3 p.222

Motivating learners

Badges are said to encourage the continued engagement of a learner in their training. According to the Mozilla Foundation which played an important role in the development of a standardised framework for badges, the achievement of a particular badge can serve as a milestone or reward on a learner's journey to complete a training course (The Mozilla Foundation and Peer 2 Peer University, 2012⁶⁵). Furthermore authors of an academic article into the value of badging suggest the visual nature of badges enables learners to see the progress they are making in their studies and thereby can motivate them to continue their learning endeavour (Finkelstein, Knight, and Manning, 2013⁶⁶).

The evidence of the influence of badges on learners' completion rate of courses is mixed. Findings from a 2013 study of learners' perceptions of the Open University's badging pilot of its publically accessible OpenLearn programme indicated that digital badges do enhance learners' motivation to complete an online unsupported course when compared to completion rates on a non-badged course of a similar nature (Law, 2015⁶⁷). However, a study of the USA's University of Notre Dame's 'I Heart Stats' MOOC course pass rate in 2015 using a randomised control trial⁶⁸ indicated that the ability to gain a digital badge did not significantly influence learners' pass rates (Ambrose, Anthony, and Clark, 2016⁶⁹). What the test did suggest however is that the pass rate of learners interested in digital badges was increased. This finding could help learning providers identify learners most likely to complete a course if interest in badges is used as a proxy for commitment to complete a course.

A specific way in which badges can potentially motivate a learner to continue their studies is that an assessment can be taken again if at first it is not passed. In an online article about the benefits of online badging, Browne highlights how the flexibility and often smaller size of assignments linked to badges in comparison to traditional assessments can allow for learners to continue to attempt to pass a badge assessment until they can

⁶⁵ The Mozilla Foundation and Peer 2 Peer University (2012) *Open Badges for Lifelong Learning* https://wiki.mozilla.org/images/5/59/OpenBadges-Working-Paper_012312.pdf p.5 [Accessed on 13th September 2018]

⁶⁶ Finkelstein, J, Knight, E. and Manning, S. (2013): 'The Potential and Value of Using Digital Badges for Adult Learners', *American Institutes for Research* p.3

⁶⁷ Law, P. (2015) Digital badging at The Open University: recognition for informal learning, *Open Learning: The Journal of Open, Distance and e-Learning*, Volume 30, 2015 - Issue 3 p.225

⁶⁸ The pass rates of two groups were compared: Group A = students chosen by random sampling to be offered the digital badge; and Group B = students chosen by random sampling NOT to be offered the digital badge.

⁶⁹ Ambrose, G.A., Anthony, E. and Clark, G.C. (2016) *Digital Badging in the MOOC Space*, <https://er.educause.edu/articles/2016/11/digital-badging-in-the-mooc-space> [Accessed on 13th September 2018]

demonstrate their proficiency in it (Browne, 2015⁷⁰). This makes the badge appear more manageable to achieve and therefore encourage learners to continue their efforts.

Recording and demonstrating learners' skills and knowledge

The Mozilla Foundation et al proposed that one of the advantage of badges is that they can capture the detail of the skills and experience a learner has gained and developed over time (The Mozilla Foundation et al, 2012⁷¹). The citing of traditional qualifications such as degrees or grades, for example in a CV, does not tend to include the detail of the skills attained on the path to achieving the certification. A set of badges on the other hand has the capacity to demonstrate more detailed information about the set of skills and knowledge acquired by an individual. This level of detail means that on the one hand the learner can demonstrate their experience to an employer and on the other hand a potential employer or recruiter, can gain a more thorough understanding of a future employee's skillset, and in addition knowledge of when these skills were acquired.

Badges also provide an opportunity for the informal learning achievements of learners to be recognised. The rise of online training platforms such as MOOCs mean people are undertaking more informal study. Law emphasises how a badge can offer recognised certification for the gaining of different types of skills, for example both technical and softer skills (Law, 2015⁷²).

Further to this, particular badges could signal achievement by the learner of particular skills which align to specific job requirements. Employers or recruiters who recognise this association between a badge and a specific job would be able to more easily and quickly identify people with the relevant skills to undertake a specific role. Janzow's article highlights how this process is assisted by a number of job search engines and professional networks enabling badges to be shared as part of their members' online profiles (Janzow, 2014-2015⁷³).

Aligning the language between job skills and skills gaps

The digital aspect of badges means that they can be adapted to meet changing needs. According to Janzow this provides the opportunity for learning providers to work with

⁷⁰ Browne, K.J (2015) *4 Benefits To Using Badges In Online Learning*, <https://elearningindustry.com/using-badges-in-online-learning> [Accessed on 13th September 2018]

⁷¹ The Mozilla Foundation and Peer 2 Peer University (2012) *Open Badges for Lifelong Learning*, https://wiki.mozilla.org/images/5/59/OpenBadges-Working-Paper_012312.pdf p.5 [Accessed on 13th September 2018]

⁷² Law, P. (2015) Digital badging at The Open University: recognition for informal learning, *Open Learning: The Journal of Open, Distance and e-Learning*, Volume 30, 2015 - Issue 3 p.234

⁷³ Janzow, P. (2014-2015): 'Connecting Learning to Jobs Through Digital Badges', *The Catalyst*, vol. 42, no. 2, p.9.

employers to ensure that the skills acquired for a badge meet the needs of the employer (Janzow, 2014-2015⁷⁴). This greater alignment between the training on offer and the acquisition of skills relevant to the market place will also offer learners increased transparency regarding the connection between their training and employment prospects.

Attracting new learners

Another online article author, Hickey, suggests that the way in which the achievement of badges can be demonstrated in an online environment provides scope to increase the public's awareness about a particular programme or provider (Hickey, 2012⁷⁵). Once gained a learner can attach their badge to their online profile, for example on social media. Other viewers of this person's profile, for instance friends or colleagues, will therefore have sight of this badge. This has the potential to increase the awareness of the certification with a wider audience and motivate more people to consider learning this programme.

⁷⁴ ibid p.9.

⁷⁵ Hickey, D.T. (2012) *Recognising, Supporting and Attracting Adult Learners with Digital Badges*, <https://evollution.com/opinions/recognizing-supporting-and-attracting-adult-learners-with-digital-badges/> [Accessed on 13th September 2018]

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